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OBSERVATIONS

ON

CHLOROFORM IN PARTURITION.

With Cases.

BY

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PREFACE.

Among the great scientific triumphs which, within a very few years, have been made in the medical world, none can rank in importance more than that of the discovery of the wonderful properties of *Æther*, or, as is now preferred, the exhibition of *Chloroform;* and though accident first brought to light the magic effects of the former, scientific investigation has taught the practical surgeon to prefer the latter in midwifery practice. Chloroform, therefore, is now the grand agent for benefiting afflicted humanity, and those who accept this boon of science will not fail to proclaim its praise.

To Science, will the cripple and the afflicted be ever grateful; and the fair sex, to whom mankind owes so much, will now have the opportunity of expressing their gratitude to those medical gentlemen who recommend the agency of chloroform with judgment and with ability. In offering

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the following pages to the Public, the object of the Author is to forewarn the timid and the inexperienced, and to apprise them that, though *Chloroform* is the agent recommended, it is never necessarily urged on the patient, and never administered but with their fullest concurrence and approbation; and it should be remembered that, where the objection is great against it—the prejudice strong, and the WILL irrelaxible, the benefits arising therefrom cannot be expected to be so effectual in relieving the patient from pain; should, therefore, the present little publication have the effect of removing those prejudices which sometimes manifest themselves during parturition, and which only tend to prolong the pangs of labour, the object of the writer will be fully answered.

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OBSERVATIONS

ON

CHLOROFORM IN PARTURITION.

CHLOROFORM has been long known to the profession, but not made use of for the purpose of relieving human suffering under painful operations, until its introduction by Dr. Simpson, of Edinburgh, to whom may be ascribed the honour of marking a new and important era in science; calculated, in the hands of skilful practitioners, to relieve suffering humanity from much unnecessary pain, and the medical practitioner many of those agonizing scenes consequent upon those duties which call so largely for his sympathy. Soubeiran first discovered it in 1831, and shortly afterwards the celebrated chemist Liebig, and a few years later its composition was more accurately determined by Dumas.

It is composed of two atoms of carbon, one atom of hydrogen, and three of chlorine; its

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specific gravity is very great, being 1·48, and immediately sinks to the bottom when thrown into water, with which it is not miscible. It is scarcely inflammable; has a sweet taste and an agreeable odour. When placed upon the fire, a similar effect to that produced by common salt is the result; it presents neither the property of an acid nor an alkali, and is extremely volatile, though not so much so as ether.

Animals cannot survive in the vapour of chloroform only, but when largely diluted with air it may be breathed with impunity, provided there be no disease of the heart, such as aneurism, nor disease of the lungs, nor a too plethoric state of the system, nor tendency to congestion of the brain, all of which should be accurately ascertained before its administration be attempted; and even then the patient should not too assiduously breathe it, particularly in midwifery practice; but on the contrary, she should gently, composedly, and quietly inhale it for a short period, then remove the instrument, and resume it after a short interval; the effect of chloroform increases a very short period after ceasing to breathe it, which has been observed by Dr. Snow and Mr. Wakley, the former calling it the

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cumulative property; hence he concludes it to be improper to influence the patient too quickly.

Chloroform appears to produce temporary congestion of most of the internal organs, especially the brain and lungs; it, therefore, behoves the practitioner to note well its effects during its administration, taking especial care to watch the eye and appearance of the countenance, as also paying due regard to the pulse.

Mr. Francis Sibson, in a valuable paper printed in the *Medical Gazette*, says,—"In all persons free from cerebral disease, the pupils contract during sleep. The sounder the sleep, the smaller the pupil. In all persons, the pupil dilates as soon as they awake; and if their sleep be sound, the dilatation is gradual." Again,—"Under the increasing influence of ether and chloroform, the pupils first contract, then oscillate between contraction and dilatation, and finally dilate. So long as the pupil is contracted, a dreamy state often exists, and the patient, when operated upon, frequently manifests an unremembered consciousness" (on perusing the several cases presently to be noticed, it will be observed that many of my patients were exactly in this condition, being, in fact influenced to the second degree, which,

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having answered every purpose—nay, my most sanguine expectation—and having found its administration thus far perfectly free from danger, or evil consequences; in my estimation, it is unnecessary to carry it further, or run unnecessary risk); "he is, in fact, in the state of sopor. When the pupils dilate, and the iris is immoveable, consciousness is extinguished, and the patient is in a state of coma." "It is very important to be able to tell easily when the stage of safety—sopor—is about to merge into that of danger—coma. The action of the pupil is the key to this knowledge. Chloroformization ought not to be continued one instant after the pupils, previously contracted, have begun to dilate. If unconsciousness can be secured by sopor, the inhalation should not be carried on to produce coma."

Chloroform accelerates the circulation, the face becomes red, and even blue (showing great congestion), and when its influence has subsided, the countenance assumes a preternaturally pale appearance; and in one instance, I observed a mucous râle in the bronchial tubes, which led me to inquire whether the patient had been subject to a cough, to which he answered, never; this, how-

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ever, soon passed away, and I must confess that I have never had one instance in my practice which has caused me to regret its use. The unfortunate circumstance resulting from it in the case of Hannah Greener, who died whilst under its influence, does not appear to be fairly attributable to the simple effect of chloroform. Sir John Fife, in his observations on this case, says,—"Of the power of chloroform to occasion such congestion no doubt can be entertained, after the experiments of Mr. Wakley and Dr. Glover on animals. There does not appear to have been anything in the previous condition of the young woman to have prevented the surgeon from having recourse to chloroform, as a means of allaying pain in one of the most painful operations in surgery (that of having the toe-nail removed).

"Such is my opinion of the effect of chloroform in lessening human suffering, and the small degree of danger attending its application in the cases that I have seen, that if I were myself required to undergo an operation, I would have no hesitation whatever in taking it.

"I have been using chloroform three or four times a week ever since its efficacy in relieving

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pain was published, and I have never seen bad effects from it. In one instance, that of a woman who had to submit to the removal of a tumour, weighing about three pounds, and distributed over a surface about a foot square, Dr. Glover and I administered about eight times the quantity of chloroform that was used in the case of the deceased.* She recovered quickly, and was not worse after the operation than might have been expected from its formidable character. I have used it frequently in amputation, lithotomy, and a great many severe surgical operations, and never knew any bad consequence arise from it. I attribute the fatal effect of the chloroform in the present instance, to peculiarity in the constitution of the young woman.

"I am doubtful whether it arose from the state of the lungs, or the peculiar susceptibility of the nervous system. It sometimes happens that a person will die from the shock of the operation within a very few minutes after, and with nothing to show the cause, merely from the shock it gives the system. I think in such cases the same individuals would be influenced in a similar way

* I have frequently used an ounce, without the slightest inconvenience.

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with chloroform. The same susceptibility of nerve that would render the shock fatal would render the chloroform fatal."

On the other hand, Dr. Glover considers chloroform more potent than ether, but considers that its effect depends much upon the constitution.

Dr. Snow in speaking of Hannah Greener, says, —"I look on the result as only what was to be apprehended from the over-rapid action of chloroform when administered on a handkerchief, as recommended by the greatest authority respecting it;" whilst Dr. Simpson altogether denies that the chloroform had anything to do with the immediate cause of the lamentable result. He says, —"The unfortunate patient certainly died when under the influence of chloroform, not, however, as I believe, from *its* effects, but from the effects of the means used to revive her." "It evidently appears, that the girl fell into a state of syncope at the time of operating. The syncope might result from the operation, or the chloroform, or from both. I have seen in a few cases such a blanched state of the lips and features come on, under the use of very powerful and deep doses of chloroform, simulating syncope, and with the respiration temporarily suspended: but these symptoms always readily disappeared, and the patient speedily recovered by

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simply removing the chloroformed napkin from the face, and letting him alone. And I most sincerely and conscientiously believe that such would have been the result in the present unfortunate instance, provided nothing more had been done. But, with the best intentions, water and brandy were poured into the girl's mouth. They were, of course, allowed to rest in and fill up the pharynx of the patient, as, in her state of syncope and anæsthesia, she was not in a condition to swallow them. The attempt at swallowing mentioned in the evidence was, I have no doubt, an attempt at breathing only, or at breathing combined with swallowing. But it was impossible for the patient, in her weak and torpid state, to inspire through a medium of water and brandy, any more than it would have been possible to inspire, if the whole head and face had been inevitably submersed in the same fluid."

Even had it been so, had it been the fact that this most melancholy consummation had been the effect of chloroform, still it would be unfortunate, and obviously unfair, to condemn so valuable a remedial agent, simply because one unfortunate termination had happened. In all cases of this kind, a comparison should be instituted between the good and the evil results, and if the former be

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found to preponderate over the latter* at the rate of 10,000 to one, as I make no doubt it does, comprehending its administration in all cases, including surgical operations (for I have not heard of a single untoward circumstance attending its use in midwifery practice), surely such an agent ought not only to be received by the public with the greatest gratitude, but it should be immediately admitted, and thereby recognised, as a legitimate remedy in the London Pharmacopœia. Moreover, every allowance should be ceded in the early introduction of a new discovery, inasmuch as it is too frequently used indiscriminately by the skilful and ignorant,—not that I mean to advocate indulgence to the unskilful administrator, but a candid and unprejudiced examination of the new agent prior to its condemnation; for otherwise it would be equally just to repudiate instrumental aid in difficult labours, simply because here and there an unfortunate termination may have ensued.

* Statistics show that the mortality in obstetric practice is in proportion to the hours of suffering; proving that chloroform not only relieves pain, but diminishes danger; and in surgical operations, the deaths are only about half the number of those cases in which no anæsthetic agent has been employed.

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I have used chloroform in many painful operations, such as fistula, extracting teeth, removing the uvula, &c. and in a large number of midwifery cases, and my observations lead me to the conclusion, that it is far more beneficial in parturition than in any surgical operation; and, moreover, I have found it act much more kindly with females than with the other sex; whether this arises from their greater delicacy of fibre, or the greater refinement and sensitiveness of their nervous system, I do not pretend to determine; suffice it to say, that such appears to me to be a fact.

Dr. Snow, moreover, in his various valuable papers on the inhalation of the vapours of ether and chloroform, states that which is of the utmost importance, viz.:—

"I am not aware that any disease, or any state of the general health, forbids the inhalation of ether or chloroform, and it is fortunate that the least favourable subjects for inhalation are those least likely to require it, viz., persons in robust health. There is not, however, any serious objections to it in such persons." Again, "The inhalation of chloroform quickens the circulation somewhat; that of ether, still more; and, therefore, I think the former would be preferable,

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when there is any affection of the heart or lungs. I have given both vapours to patients with diseases of these organs, and have seen no ill consequences."

I will here shew Dr. Snow's division of the effects of chloroform into degrees, and then introduce some cases in order to allow the public to judge for themselves. Dr. Snow divides the effects into five degrees:—

1st Degree	Exhilaration, or altered emotions and sensations of some kind; but the patient still retains consciousness and volition.
2nd "	Mental functions performed in an irregular manner; ideas of a dreaming kind.
3rd "	The functions of the cerebral hemispheres appear to be totally suspended; there may be involuntary motions resulting from external impressions, and groans or cries may occur, but no sound of an articulate kind.
4th "	No movement is obvious, except that of respiration, which is unaffected by external impressions, and goes on regularly, though often with snoring, or even some degree of stertor.
5th "	This degree appears to have been used only in experiments on animals, and is not had recourse to for the purpose of operations or otherwise, as it is seldom requisite to proceed beyond the 3rd.

Case I.

Mrs. P—, Tabernacle-walk.—About thirty years of age, in labour with her first child. She had been in excruciating pain all day, without any cor-

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responding action on the uterus. On my arrival, at five o'clock P.M. I found the os uteri dilated to about the size of a shilling, with a wiry edge, and muscular rigidity of the perinæum—in fact, such as would lead one to prophecy the termination of the labour at about five o'clock on the following morning.

The patient immediately requested me to administer the chloroform, which I did, attentively watching its effect. In two minutes she became perfectly serene, and free from any expression of pain, the countenance calm and composed; no flush nor livid cheek, such as I have seen in other cases. The uterine action, which had been hitherto irregular, became steady in its interval as to time, thus leading one to suppose that the natural process goes on with more regularity when not under the influence of the will of the patient.

The uterus immediately began to yield, the muscular tenacity and resistance of the perinæum subsided, and, in fact, the muscular fibre became relaxed, and no longer offered resistance to the passage of the child. And here, I may observe that the perinæum, by an action whether voluntary or otherwise, generally impedes the progress

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of the child, and in many cases presents a formidable obstacle: now this, at least, appears to be completely overruled by the action of chloroform, which in itself, even without any other advantage, is of the utmost importance in relation to the sufferings of the patient and the time of the accoucheur. The expulsive power, in the present case, appeared to be greatly increased, as has been also observed by eminent practitioners.

My patient was under the influence of the chloroform for about two hours, during which period she experienced no pain, and remained in the most placid state imaginable. She then began to experience the most agonizing pains, and most urgently requested me to administer more chloroform, saying, "Pray give me some more, oh pray, do pray let me smell it again," &c. It required all my ingenuity to pacify her. At last the time deemed fitting by me arrived: I again put her under the influence of it, and in about a quarter of an hour she was safely delivered without pain, though she felt the passage of the child. Now, I do not hesitate to state, that without the aid of chloroform, the probability is, the child would not have been born until nine or ten hours afterwards. It is worthy of remark, that though not

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in pain, she was conscious all the time, and feebly answered my questions as one aroused from sleep. She did not experience, either then or afterwards, the slightest ill effects: neither sobbing, crying, nor other hysteric symptoms, were produced.

Case II.

Mrs. B——, Cumberland Street—stout, full habit, and generally a very healthy person. This was her third child; and she had been lingering the whole day. At about two o'clock P.M. I found her precisely in the same stage of labour as I had left her about eleven o'clock in the forenoon, without the slightest advancement or progress having been made during those hours. She had a great antipathy to chloroform; and as it is my invariable rule not to administer it, unless with the full consent of the patient in particular, as also of the husband, if practicable, I gave her two or three doses of ergot of rye; but this producing no effect, she became desirous of being put under the influence of chloroform; nevertheless, she was very timid and fearful, and did not inhale it in that calm and quiet manner so requisite to its efficacy; consequently, she was only

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partially influenced by it; and though she felt some pain, she expressed herself as having experienced considerably less than usual, and regretted not having taken more. Her infant was born about a quarter of an hour after she inhaled the chloroform.

Case III.

Mrs. L——, York Street. This lady had been in a delicate state of health, more or less, for several years, and her case, though the most unfavourable for the administration of chloroform, yet firmly established the conviction on my mind, that chloroform does exercise the most astounding and extraordinary powers over the muscular action in parturition.

Upon examination, I found the cervex of the uterus remarkably elongated, and protruding—the membranes bulging through—the uterus dilated about the size of half a crown, thick and unyielding—and, in fact, such a case as any experienced midwifery practitioner would prognosticate many additional hours of suffering before delivery.

Upon administering the chloroform, she became rather hysterical, arising from fear, and,

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was therefore, only partially influenced by it; nevertheless, it was delightful to observe its immediate effect; the uterus began steadily to dilate, the elongation to cease, and she was safely delivered in an hour; she, moreover, stated her pains to be much less severe.

Case IV.

Mrs. M——, New North Street. First child. When I was called to her I found her in severe labour; the perinæum being extremely rigid. This case presented a peculiar feature, inasmuch as, although she frequently called for more chloroform, stating that "it was all gone," and that, whilst under its influence she felt no pain, and appeared to be in the happiest state of forgetfulness, yet when uterine action recurred, her expression of pain was equally urgent as it was prior to inhaling the chloroform; nevertheless, when the infant was born, she declared, that though she felt the passage of the child, she did not experience the pains, but they appeared to be numbed and deadened, and, to use her own expression, she appeared to be numbed all over. She and all her friends were much satisfied with its effects.

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Case V.

Mrs. R——, New North Road. This lady is of an extremely nervous temperament, arising in a great measure, no doubt, from the fact of her late medical attendant having most injudiciously stated to her that her heart was diseased, and that she was not likely to live any length of time. This statement rendered it necessary for me accurately to examine the chest; but, after the most scrupulous investigation, I came to the conclusion that no disease of the heart existed. Such, however, was her desire to inhale chloroform, that had there been any disease of the heart, I think, in her case, I should not have hesitated to administer it, especially after the remarks of Dr. Snow, who states that he has given it to patients with diseases of the lungs and heart, without having witnessed any ill consequences resulting from its use. Mrs. R—— was extremely frightened and timid, and stated that she could not have a pain unless I gave her the chloroform; in fact, though the uterus was tolerably well dilated, the pains had all ceased, but upon inhaling the vapour they immediately resumed their wonted vigour, and she was safely

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delivered in about twenty minutes. She then asked whether her child was born, and upon being answered in the affirmative, she stated that she felt the passage of the child, but experienced little or no pain, stating, indeed, that she had been dreaming.

Case VI.

Mrs. S——, of Islington, is a lady whom I have attended in six accouchements, and though of a firm and well-regulated mind in her domestic circle, and under ordinary circumstances, is, nevertheless, exceedingly nervous and frightened when in the sorrows of parturition; on every occasion of this kind, I have been in attendance, more or less, the whole of the day, arising mostly from her timidity—and I think in every case I have been compelled to have recourse to Secale cornutum in order to increase uterine effort. She is stout, short, and latterly grown very plethoric, so much so, that I felt somewhat reluctant to administer the chloroform: on my arrival, I found her precisely in the same condition, in relation to the advancement of labour, as I had on former occasions; which led me, from experience in her particular case, to come to the conclusion that she would

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not be confined for at least four hours. The uterus was, as heretofore, dilated about two-thirds, and the edges extremely rigid and unyielding. She became so urgent in her demands for the chloroform, that I reluctantly allowed her to inhale; in two minutes the uterus acted, and became most completely dilated; she did not know that she had had a pain;* she experienced a second pain slightly, and a third within a quarter of an hour from the commencement of inhalation, brought the child into the world: she having expressed herself as having felt its passage, but without that forcing or resistance which she had experienced on former occasions. She answered all my questions by saying, It is wonderful, it is really wonderful; finally, she enjoined me, for the sake of her fellow-sufferers, to embrace every opportunity of using it.

Case VII.

Mrs. D——, Blossom Street. This case furnishes one of the most striking examples of the

* It is requisite to use the word pain instead of action of the uterus, as being the term most likely to be understood, though it sounds somewhat anomalous to say she had a pain, when no pain was felt.

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value of chloroform in parturition. She is a nervous person, and had been in labour (with her eighth child) slightly all day; about twelve o'clock at noon I called upon her, when she had the greatest objection to inhale the vapour; upon visiting her again about half-past five, P. M. I found the pains very strong and regular, but no great progress made towards the accomplishment of the desired end; uterus unyielding, edges extremely hard, and dilated so slightly that I expressed my intention of leaving her for two or three hours; however, she was very fatigued, and began to feel timid, in consequence of lingering all day; she then expressed a wish to inhale chloroform, and sent to her husband to ask his consent: this being left to her own discretion, she requested me to administer it. Upon doing so, in less than a minute she was under its influence to the second degree, and in less than five minutes the child was born. The first pain fully dilated the uterus, and I then spoke sharply to her (not wishing to render her completely insensible, indeed I do not find it at all requisite to suspend consciousness), asking whether she felt the pain, she answered, No, she had had no pain, but thought one was coming on; which was in truth the faint

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remains of the one just passed. I then put her slightly under its influence again, when the infant was born, as I said before, in less than five minutes, to the utter astonishment and amazement of the bystanders.

The patient declared that though she felt the passage of the child, she did not experience the slightest pain or inconvenience either then or after.

Case VIII.

Mrs. D——, Hackney. I have attended this lady in six accouchements; her labours have been generally lingering; so much so, that in one case I was compelled to have recourse to instrumental aid. She is remarkably nervous, and expressed herself to be timid in reference to the effects of chloroform; however, her pains being infrequent, and her labour tedious, as heretofore, she having been in that state the whole of the day, in the evening she desired me to give her the anæsthetic agent. After inhaling the vapour, she had about four pains, and was safely delivered in about twenty minutes; when she expressed herself in these (I use her own words) ejaculatory sentences: "I never had so good a time; it was very quick;

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why, you have not been in the house an hour; well, it's a very good thing, Mr. Hancorn, it's a very good thing, and if I was about to be confined again to-morrow, I should wish to have it, and I will tell any one so."

I then requested to know whether she would object to my referring to her case, when she exclaimed, "No, indeed, I shall be very glad to tell any body else. Oh, I am much obliged to you; I felt the pain before the last, but not so bad; in feeling the passage of the child, I did not experience pain; I felt happy in comparison; all I felt was a fear of my senses leaving me."

Case IX.

Mrs. M——, residing at Edmonton, like most other people, was very fearful of submitting to the use of a new remedy; but, after many hours of extreme suffering, she inhaled the vapour, which speedily relieved her of all anxiety upon the subject. There was excessive rigidity in this case; but, as usual, the muscular resistance was soon overcome, and she was confined within half an hour of its administration. The chloroform apparently accelerated the uterine contractions in a marked degree; and she expressed herself as

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being much more free from the violent pains, though she experienced the expulsive force. I have no hesitation in stating that this case would not have been over for several hours, had she not been assisted by the anæsthetic agent. The nurse, a highly respectable and intelligent woman, exclaimed, that though she had not witnessed its use before, she should be able now to report favourably of it.

Case X.

Twins.—Mrs. W——, Church Street. This lady was *enceinte* for the ninth time; and asserted that during the whole period of gestation on the present occasion, she had been considerably more distressed than on any former one. She having expressed a desire for the inhalation of chloroform, yet experiencing some anxious doubts upon it, I was induced to administer it to her in a very modified degree, and at occasional intervals only. It was truly astonishing to witness its immediate calming and soothing qualities. She asserted it to be very wonderful, stating that she felt no pain. When not under the influence of the vapour, her expression of agony was as urgent as before; but on again inhaling, the same exemption from pain

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ensued; and she was safely delivered of a fine female child at a quarter to twelve o'clock. I soon discovered another, and immediately put her under the influence of the anæsthetic agent again, but in this instance to a greater degree; when, in the short space of a quarter of an hour, or twelve at noon precisely, a male child was born, even larger than the first, and without the mother having experienced pain. She states that she felt something passing, which she knew was not the placenta, but no pain. This was a remarkably interesting case, inasmuch as, though the first infant presented naturally, the second was a breach presentation, which generally offers some features which make it more tedious and painful for the patient, but which it will be unnecessary to enlarge upon here. She acknowledges the effect of the chloroform to be wonderful, exceedingly pleasing and grateful, and will not hesitate to recommend it to others, although she had been previously greatly prejudiced against its use.

Three important effects of chloroform, in parturition, will be deduced from the foregoing cases.

In the first place: it is not requisite to suspend consciousness.

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Secondly: it immediately relaxes muscular fibre; and,

Thirdly: it apparently increases the expulsive force.

As respects the first, that of the non-suspension of consciousness, it is one of the most valuable features, and the one, of all others, perhaps, which will be hailed with the greatest joy by the patient; for, nothing is so revolting to the mind, and nothing engenders so disagreeable a sentiment, as the anticipation of being deprived of our senses. It is, therefore, with a feeling of the most lively satisfaction, I am enabled to announce to my fair readers, that they need entertain no anxiety upon this point. No doubt, most of my readers have, at some period or other, experienced that state of mind commonly called musing, or day-dreaming. It is that calm and passive state of the brain, which, being thrown into a revery, takes cognizance of all passing events, without paying attention to any one in particular. Imagine a lady, in this mental state of lassitude, sitting at a window overlooking a river, or strolling on its bank, and all the circumstances of youth, of past and passing events, being reviewed by the mind, whilst the eye takes notice of boats or

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other things gliding gently down the stream;—that state of mind which many consider to be the act of thinking, but which is a great mistake; for thought is an abstract principle, an exceedingly active state of the mental faculties, which concentrates generally all its force upon one subject. Suppose, then, that a second party asks the semi-somnambulist a question, she will answer correctly, but most likely without being completely aroused from her comparatively happy condition. This is exactly the state of mind induced by the inhalation of the vapour of chloroform to the second degree, and which I have found to answer every purpose in parturition, and perfectly free from any dangerous consequences.

As regards the fact that it immediately relaxes the muscular fibre, this is absolutely real, for not only does the muscular force of the whole body become enervated, but a prostration of the will supervenes; this is shewn by the almost immediate yielding of the uterus, and the non-resistance of the perinæum. That the mind of the patient exercises a powerfully detrimental influence upon the exit of the fœtus, in the majority of individuals, no obstetric practitioner will

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deny; therefore, by depriving the patient of the power to control muscular resistance by the force of the mental faculties, must necessarily produce that condition most conducive to the acceleration of delivery. And this brings me, as a natural sequence, to the third effect, viz., "that it *apparently* increases the expulsive force; now, whether chloroform possesses a specific property, capable of exciting uterine action, I am not by any means prepared to say; it has been asserted by the highest authorities, that it actually does increase the expulsive power, and that it appears to do so, I am most ready to admit, but that it absolutely is the effect of an expulsive stimulus, I must confess, I am not willing to subscribe to; for it would sound as an extraordinary and singular coincidence, if, whilst chloroform has the effect of relaxing and prostrating the muscular energy of the whole body, it should at the same time, exempt the uterine fibre; nay, not only exempt it, but positively exert a decidedly opposite tendency. Why chloroform should relax all muscles save those of the uterus, and that these should be stimulated by it, can only be reconciled by falling back upon the theory propounded by the late Dr. Ramsbotham, who held that the uterus

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was not muscular fibre at all, but a texture *sui generis*. This theory has been long expunged, though the celebrated physiologist, Blumenbach, acquiesced in it, and the present Dr. Ramsbotham still calls the uterus a hollow muscle; thereby qualifying the term muscle, and not recognising it as a substance coming within the meaning of muscular fibre, as applied to other parts of the human frame. In Mayo's Outlines of Physiology we find, "its texture is fibrous, but much firmer than muscular substance." Whether the fœtus possesses a peculiar and specific stimulus *per se*, causing the expulsive power; or that the uterus exerts, *per se*, a peculiar and specific stimulus agreeably to the laws of nature to produce the expulsive effort, is amongst the hidden mysteries, which may hereafter be brought to light, by the rapid advancement which science is making in all its branches.

I am inclined to believe that the expulsive effect of chloroform is only apparent, and not real, inasmuch as by destroying muscular resistance, as well bodily as mentally, there being no longer the same degree of obstruction to the passage of the child through the pelvis, the fœtus advances with less expulsive effort; and

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this leads me to ask the question, What gives rise to the *pains* of labour? My answer would be that they are *mainly* to be ascribed to the *muscular resistance* offered to the transit of the child; remove this, and the same necessity for pain will no longer exist, which is in itself an evidence that pain in labour is not wholly caused by the *contractile* effort of the uterus, as is evidenced by the assertions of the patients in the cases already mentioned, wherein they say, "I felt the passage of the child, but no pain."

It may perhaps cross the mind of some of my readers, that after such an absolute prostration of the muscular fibre, the ligaments and appendages may remain to a certain extent in a debilitated state; I have not found this to be the case; on the contrary, I think the balance will be found to be in favour of a more vigorous condition; inasmuch as the greater the duration and exertion may be, so in the same ratio will be the greater difficulty of reaction. In all my cases, I have found the placenta thrown off without delay, and the uterus contracting as quickly and as firmly as in those cases in which chloroform had not been used. I have not met with a single case in which languor followed, but the reverse,

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they appeared to be much less distressed, and in a far more refreshed condition than usual, by which I infer that the anæsthetic property of chloroform is so fleeting that it does not interfere with the return of muscular energy with all its wonted vigour.

I now come to a part of my subject, which I approach with a considerable degree of diffidence, as pertaining to that which has been handled by those who are far more competent, in all probability, to advance a more correct opinion upon theological doctrines than myself; nevertheless, I cannot refrain from making one or two observations in order to refute the statements made by some in the public prints, to the effect, "That it is wicked to endeavour to subvert the laws of God, which they state we do, by destroying the pain of labour." No doubt this objection has reference to the third chapter of Genesis, verse 16. "Unto the woman he said, I will greatly multiply thy sorrow, and thy conception: in sorrow thou shalt bring forth children," &c. It will be observed that the word *pain* in this sentence is not made use of; the word is *sorrow*, and the greatest admirer of the effects of chloroform will not pretend, nor can its greatest opponent

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refute the fact, that it does not in the slightest degree interfere with this divine and just sentence.

"Sorrow" commences with conception, and no chloroform nor any human device can terminate it, comprehending as it does bodily ailment, fatigue, and anxiety before delivery; and nursing, suckling, and restless nights after, which will of necessity be greatly "multiplied" mentally should the object of care and watchfulness turn out to be wicked and undutiful. My object, however, is not to enlarge upon the divine sentence on this subject, but to show my readers a simple reason for considering that the objectors to chloroform (on this ground) have taken a wrong view of the case. And in admitting that all knowledge proceeds from God, it would be much more in accordance with the divine economy to ascribe its discovery to a gracious and merciful consideration on the part of the Almighty.

In conclusion, I would observe, that I have taken these cases, not only as a fair average of the effects of chloroform in midwifery practice falling within my immediate notice, but because these ladies have condescendingly permitted me

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to refer sceptical persons to them; not that I am disposed to take upon myself the responsibility of persuading patients to have recourse to this anæsthetic agent—for therein I should consider myself incurring an unnecessary obligation—but, on the contrary, I have carefully abstained from doing so, considering it most conducive to the welfare of my patient to allow each to exercise her own reasoning powers, and to consult her own sentiments, upon a subject so immediately pertaining to herself.

I have endeavoured to submit to my readers a fair unvarnished statement of facts, neither adding to, nor taking from; and if my efforts shall be the means of exempting the fair sex from some of those agonizing and excruciating pains to which they have hitherto been subject, I shall deem myself fortunate and amply repaid. It therefore only remains for me to congratulate them upon the dawning prospect of a happier state for the future.

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